**Atomic Structure**

**1. The three particles of the atom are and their respective charges are:**

a.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** The number of protons in one atom of an element determines the atom’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and the number of electrons determines \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of the element.

**3.** The atomic number tells you the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in one atom of an element. It also tells you the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in a neutral atom of that element. The atomic number gives the “identity” of an element as well as its location on the

**4.** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of an element is the average mass of an element ’s naturally occurring atom.

**5.** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of an element is the total number of protons and neutrons in  the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the atom.

**6.** The mass number is used to calculate the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_in one atom of an element. In order to calculate the number of neutrons you must subtract the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**7. Give the symbol and number of protons in one atom of:**

Carbon\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    Hydrogen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chlorine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_         Sodium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Oxygen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   Nitrogen \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sulfur \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Phosphorus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Potassium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Calcium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_